

REMARKS

Claim 14 has been added. Accordingly, Claims 1, 3-5 and 7-14 are pending in this application. The amendment does not constitute the addition of any new matter to the specification. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Rejection under 35 U.S.C. § 103

Claims 1, 3-5, and 7-13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawami et al. (US 5,882,761) in view of Kawasaki et al. (US 6,410,368). Applicant respectfully traverse this rejection. The claims patentably distinguish over a combination of Kawami et al. and Kawasaki et al. as explained below. Claims 1 and 7 are independent and the remaining claims are dependent on either Claim 1 or 7.

Claim 1 recites an organic EL device comprising: 1) a laminate consisting of an opposed pair of electrodes and an organic light-emitting layer sandwiched between the electrode, 2) a gas-tight housing accommodating said laminate and shielding off the external atmosphere, and 3) a preformed moisture-absorbing body disposed in isolation from said laminate within said gas-tight housing, said preformed moisture-absorbing body being fixedly secured to at least one part of said gas-tight housing, and said preformed moisture-absorbing body comprising a desiccant and a resin component.

Two of the significant features of the present invention are (a) that the preformed moisture-absorbing body comprises both a desiccant and a resin component; and (b) that the moisture-absorbing body is disposed in isolation from the laminate. Since the preformed moisture-absorbing body is disposed in isolation from the laminate, risks of a leak current and a cross talk can be avoided (see page 2, lines 6-20 of the present invention). Moreover, the addition of resin to the body more effectively removes moisture from the housing so that the formation of non-emission areas (the so-called dark spots) can be suppressed or precluded, thus providing a display device having high display quality (see page 16, line 11 through page 17, line 3 of the present specification).

i) Kawami et al.

Kawami et al. discloses an organic electro-luminescent element which is provided with a drying substrate, such as BaO, without resin. The drying substrate is contained in an airtight container and spaced from the element in an internal space of the airtight container for absorbing

Appl. No. : **09/854,067**
Filed : **May 10, 2001**

moisture in the internal space. As such, Kawami et al. fails to teach the use of the resin component. Kawami et al. merely discloses "a drying substrate."

On the other hand, in the present invention, the advantages can be achieved by employing the preformed moisture-absorbing body comprising a desiccant and a resin component (see page 17, line 4 through page 19 line 1 of the present specification).

ii) Kawasaki et al.

The Examiner has asserted that Kawasaki et al. provides the resin component lacking in Kawami et al. However, the resin used in Kawasaki et al. is for an entirely different purpose than that of the present invention. Kawasaki et al. discloses a counter substrate 18 attached to an active matrix substrate on which the EL is formed. The gap between the EL and the counter substrate is filled with a resin material 20 (see column 21, lines 1-8 of Kawasaki et al.). Further, Kawasaki et al. discloses "An EL element is weak to moisture such as water and is likely to be degraded, so that it is effective to mix a drying agent such as barium oxide in the resin material so as to enhance resistance to moisture" as pointed out by the Examiner (see column 21, lines 8-11 of Kawasaki et al.).

Therefore, the purpose of using the resin material in Kawasaki et al. is simply for sealing the EL element. This structure is similar to a conventional protective layer discussed in the present specification (see page 2, lines 8-14 of the present specification).

Combination of References

No motivation to complete the present invention stems from a combination of Kawami et al. with Kawasaki et al. The resin of Kawasaki et al. is for sealing the EL element, not for removing moisture. The desiccant is added to this resin because it is in contact with the EL element, not to remove moisture from inside the gas-tight housing, as in the present invention. Thus, one of ordinary skill in the art would not be motivated to combine the resin of Kawasaki et al. with the desiccant of Kawami et al.

Unexpected Results

Moreover, even were one motivated to combine Kawasaki et al. and Kawami et al. in the manner suggested by the Examiner, one could not have predicted the advantages obtained when using the presently claimed invention. Comparative Example 2, described on the bottom of page 20 to the top of page 21 of the present specification, provides an example of a device using a conventional desiccating means without resin, such as is described by Kawami et al. Example 1

Appl. No. : 09/854,067
Filed : May 10, 2001

of the specification, described on page 19-20, provides an example equivalent to that of Comparative Example 2, except including the resin recited in the presently pending claims.

The results of accelerated moisture testing of both the devices of Example 1 and of Comparative Example 2 are discussed on page 21 of the specification. "The device according to Comparative Example 2 showed definite dark spots before and after exposure. In contrast, the organic EL device according to the present invention showed neither luminance aging nor growth of dark spots." Thus, the inclusion of resin, as recited in the claims, results in unexpectedly enhanced retention of the initial emission zone. These unexpected results clearly evidence the patentability of the claimed invention.

Thus, Claims 1 and 7 and the claims dependent on either Claim 1 or 7 could not be obvious over a combination of Kawami et al. and Kawasaki et al. Applicant respectfully requests withdrawal of this rejection.

New Claim 14

New Claim 14 has been added to recite that the resin is polyolefin. Such resin is not disclosed in Kawasaki et al. Accordingly, Claim 14 is patentable for this additional as well.

CONCLUSION

In light of the Applicant's foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. A duplicate copy of this sheet is enclosed.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: July 1, 2003

By: 

Daniel E. Altman
Registration No. 34,115
Attorney of Record
Customer No. 20,995
(949) 760-0404